

What's New in ZoneFlex Software Release 8.1

This application note describes the new features available in Version 8.1 of the Ruckus Wireless ZoneFlex family. This document assumes familiarity with the Ruckus ZoneFlex product line and the features of earlier releases including version 8.0.

Highlights of this Release

ZoneFlex software release 8.1 provides Enterprises, HotZone Operators and Managed Service Providers a higher performing, more reliable, and easier to deploy and use way of providing wireless access to diverse groups of users across multiple locations:

- ZoneFlex 7762 802.11n outdoor AP
- Smart Mesh Networking enhancements
 - 5GHz smart meshing for ZoneFlex 7962 and 7762
 - Mesh topology view on FlexMaster and ZoneDirector
 - Mesh-mode configuration
- Zero-IT and Dynamic PSK™ for iPhone
- ZoneDirector management enhancements
 - VLAN tagging support on management VLAN
 - Read-only ZoneDirector Administration with Local Database Authentication
 - Primary and Secondary ZoneDirector configuration
 - 802.11n-only mode
- FlexMaster enhancements
 - Google Maps Enhancements
 - Client association graphs per ZoneDirector group
 - Enhanced ZoneDirector Device View dashboard
 - AP event notification via ZoneDirector

Supported Platforms

- FlexMaster version 8.1
- ZoneDirector 1000 version 8.1
- ZoneDirector 3000 version 8.1
- ZoneFlex 2925 802.11g Access Point version 8.1
- ZoneFlex 2942 802.11g Access Point version 8.1
- ZoneFlex 7942 802.11n Access Point version 8.1
- ZoneFlex 7962 802.11n Access Point version 8.1
- ZoneFlex 2741 802.11g Outdoor Access Point version 8.1
- ZoneFlex 7762 802.11n Outdoor Access Point version 8.1

1. Introduction to Ruckus Wireless ZoneFlex 7762 dual-band 802.11n outdoor AP

Capable of sustaining throughput of up to 100 Mbps over 300 meters, the Ruckus Wireless ZoneFlex 7762 AP is the first Enterprise-class dual-band 802.11n outdoor AP to combine concurrent spatial multiplexing, interference rejection, and Beamforming - delivering unprecedented performance, range, and reliability in an unmatched price.

Featuring two 10/100/1000Mbps ports, the ZoneFlex 7762 delivers unparalleled dual-band 802.11n throughput, even with standard PoE (802.3af), providing rates of up to 600Mbps.

Pole, ceiling or wall mountable, the ZoneFlex 7762 is a dual-band 802.11n Smart Wi-Fi system for flexible deployment in hardened environmental conditions. IP-67 rated for water and dust, the ZoneFlex 7762 operates in temperatures ranging from -40°C - 65°C (-40°F - 149°F), leveraging a built-in heater.

When used with high-power Ruckus PoE injector, the ZoneFlex 7762 can power an adjacent device (e.g. surveillance camera) via standard PoE (802.3af).

The ZoneFlex 7762 is the only outdoor Wi-Fi product to combine unique capabilities not found in any other Wi-Fi device in the world:

- **An integrated high-gain, adaptive antenna array (BeamFlex™)** that automatically focuses and directs Wi-Fi signals over the best performing path for any given user to ensure consistent performance at the longest distances,
- **Smart Wireless Meshing** support over 5GHz (with outdoor ZoneFlex 7762 or indoor ZoneFlex 7962 APs) that eliminates the requirements to connect every AP with an Ethernet cable,
- **Advanced remote Wi-Fi management** including support for both SNMP and TR-069 to simplify and automate deployment and ongoing administration.

Unlike other expensive and complex outdoor Wi-Fi products, the Ruckus ZoneFlex 7762 can be deployed as a standalone Wi-Fi access point, discretely managed by the Ruckus FlexMaster system, or as part of a managed wireless LAN system using the Ruckus ZoneDirector Smart WLAN controller.

Customer Benefits

- Wire-like performance and reliability
- Investment protection by supporting legacy clients over 2.4Ghz radio while serving 802.11n clients and meshing over 5GHz
- Ideal for voice and high-density outdoor deployments
- Automated deployment keeps things simple even for large Enterprise and Service Provider deployments
- Distributed forwarding architecture eliminates controller bottlenecks with 802.11n APs
- Standard 802.3af support for painless migration leveraging existing PoE switches
- Enabling new business models providing reliable wireless broadband access with unparalleled throughput at a fraction of the cost and time over alternatives
- Ideal for broadband providers and multiservice operators (MSOs) looking to attract and retain subscribers by extending branded services
- Reap the benefits of eliminating coverage holes, minimizing expensive broadband infrastructure investment and offloading data from taxed 3G networks
- Easy and affordable extension of indoor managed wireless LAN (WLAN) services to outdoor areas where cabling Ethernet is not possible
- Unified indoor/outdoor WLAN has never been simpler to deploy or manage

Availability

ZoneFlex 7762 802.11n Access Point with software release 8.1

2. 5GHz Smart Meshing for ZoneFlex 7962 and 7762

With this release, Ruckus Wireless Smart Mesh Networking is extended to 5GHz radios on the ZoneFlex 7962 and 7762 APs.

Smart Mesh extends patented Ruckus Smart Wi-Fi technology to create a new class of reliable and high-performance WLANs that are self-organizing, self-optimizing, and self-healing. Smart Mesh provides the three missing ingredients that have stymied the deployment of wireless meshing: (1) higher performance Wi-Fi capability; (2) simple to deploy system; and (3) ability to adaptively control the integrity of Wi-Fi signals between mesh nodes.

When Smart Meshing is enabled on the ZoneDirector, provisioned ZoneFlex 7962 and 7762 APs will leverage their 5GHz radios to form a high-performing mesh, while serving clients over 2.4GHz or 5GHz radios. As with previous software releases and APs, all ZoneDirector features are available whether the APs are wired or meshed.

Customer Benefits

- Dramatically simplifies, speeds and reduces the cost of WLAN deployment - enterprises and service providers simply plug ZoneFlex access points into any convenient power source, and walk away. No extensive RF site surveys, cable runs, configuration, or optimization adjustments are required.
- Improved mesh throughput by leveraging 5GHz radios for meshing and 2.4GHz for client access, effectively saving a hop and doubling performance

Availability

ZoneDirector, ZoneFlex 7962, and ZoneFlex 7762 with software release 8.1

3. Mesh Topology View on FlexMaster and ZoneDirector

In this release, administrators can view the mesh topology (Root, 1-hop Mesh, 2-hop Mesh, ...) in a table format on FlexMaster and tree format in ZoneDirector. In that view, administrators can verify APs' channel assignment, client load, signal strength, as well as mesh topology.

Customer Benefits

- Better network topology visualization allows faster diagnosis in complex network topologies

Availability

ZoneDirector and FlexMaster with software release 8.1

4. Mesh Mode Configuration

With this release, ZoneFlex APs in a mesh deployment can be assigned roles by the administrator. By default, the AP role is assigned dynamically by the Smart Mesh algorithm. However, administrators can choose to statically configure an AP to be a Root (Wired) AP, Mesh AP, or disable mesh altogether on that AP. When configured to a specific mode, the AP will always stay in that mode.

Customer Benefits

- Manual control on mesh topology and specific APs behavior
- Improved support for multi-building deployments where a mesh AP is connected to a wired segment with additional APs

Availability

ZoneDirector with software release 8.1

5. Zero-IT and Dynamic PSK™ for iPhone

Starting with software release 8.1, Ruckus Wireless extends its patent-pending Dynamic PSK to support Apple iPhones. Customers can now automatically provision the wireless settings (SSID and unique pre-shared key) on Apple iPhones. This is in addition to the current support of Windows XP, Vista, Mobile, and CE.

Ruckus's Zero-IT capability for iPhones can also be used to provision other wireless authentication and security parameters (e.g. configuring SSIDs, 802.1x, ...)

Customer Benefits

- Highly secure and easy to deploy wireless for Apple iPhone devices

Availability

ZoneDirector with software release 8.1

6. VLAN Tagging Support on Management VLAN

With this release, ZoneDirector and ZoneFlex APs can use a VLAN tag (802.1Q) on the management interface. Administrators can configure the ZoneDirector management VLAN (default: untagged) and then for the APs choose one of the following options: (1) untagged management VLAN (default), (2) global setting for management VLANs for all APs, and (3) separate management VLAN for each AP.

Customer Benefits

- Seamless integration with existing networking infrastructure and switchport configuration
- Complete separation for management traffic
- Enables hotel in-room AP deployments where available in-room physical ports are pre-configured with a VLAN tag.

Availability

ZoneDirector with software release 8.1

7. Read-only ZoneDirector Administration with Local Database Authentication

In this release, administrators can be assigned different access privileges (e.g. Read/Write vs. Read-only). When defining an administrator role, the choice can be made between full privileges (all configuration and management tasks) and limited read-only privileges (monitoring tasks).

Customer Benefits

- Enhanced security by enforcing role-based admin authentication
- Compliance with corporate security policies requiring centralized authentication, and separation of administrator privileges

Availability

ZoneDirector with software release 8.1

8. Primary and Secondary ZoneDirector Configuration

In this release, administrators can centrally configure on ZoneDirector a primary and secondary ZoneDirector for ZoneFlex APs. When an AP is provisioned with these settings, it will attempt to discover only the configured ZoneDirectors and will join the primary ZoneDirector if available. In the case where the primary ZoneDirector is not available, the AP will join the secondary ZoneDirector (if available).

Customer Benefits

- Streamlined provisioning of ZoneFlex APs
- Enhanced control for deployments with ZoneDirector redundancy and/or load balancing

Availability

ZoneDirector with software release 8.1

9. 802.11n-only Mode

With this release, administrators can prevent legacy clients (802.11a/b/g) from connecting to a specific AP radio. A global setting on ZoneDirector allows administrators to specify that only 802.11n clients will be able to associate, resulting in better overall throughput for 802.11n clients. For example: administrators can reserve the 5GHz radio on the ZoneFlex 7962 and 7762 for 802.11n clients only and this way have legacy 802.11a/b/g clients use the 2.4 GHz radio.

Customer Benefits

- Improved 802.11n throughput by steering legacy 802.11a/b/g clients to separate radios
- Enhanced network control

Availability

ZoneDirector with software release 8.1

10. FlexMaster Google Map Enhancements

10.1. ZoneDirector-managed APs on Google Maps

In this release, FlexMaster can display the location and status of ZoneDirector-managed APs on the Google Map associated with a that ZoneDirector.

10.2. Google Maps Auto-zoom

When opening Google Maps, FlexMaster now auto-zooms the view to focus on the area where the managed devices are located.

Customer Benefits

- Streamlined management for indoor and outdoor 3-tier architecture
- Better visualization of ZoneDirector-managed APs connectivity status

Availability

FlexMaster with software release 8.1

11. FlexMaster Dashboard Enhancements

11.1. Client Association Graphs per ZoneDirector Group

The FlexMaster dashboard client association graph now displays the number of clients associated to a selected ZoneDirector group. The graph shows information from the last 18 hours.

11.2. Enhanced ZoneDirector Device View

With this release, administrators can now leverage an at-a-glance view of the number of connected and disconnected ZoneDirectors of a particular selected ZoneDirector group. Additionally, the dashboard displays the number of connected and disconnected APs and the number of the currently connected clients of the selected ZoneDirector group.

Customer Benefits

- Facilitates trends monitoring for capacity management and network health
- Enhanced monitoring with quick at-a-glance view of client load versus time as well as status of managed devices with intuitive drill-down to reports

Availability

FlexMaster with software release 8.1

12. AP Event Notification via ZoneDirector

FlexMaster now provides a real-time notification of events triggered by ZoneDirector-managed APs. These events include: (1) AP lost contact to ZoneDirector, (2) AP joins ZoneDirector, (3) Root AP accepts Mesh AP, (4) Mesh AP disconnects from Root AP, and more.

Customer Benefits

- More proactive troubleshooting and faster notification of events occurred

Availability

FlexMaster with software release 8.1